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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,460	05/08/2001	Ulrich Reiners	9784-3U2 (TH8002US/B)	4175

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2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103-7013

EXAMINER

KRUER, KEVIN R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 04/28/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,460

Applicant(s)

REINERS ET AL.

Examiner

Kevin R Kruer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 18 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/072,018.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The amendments to the specification of Paper #15, filed March 18, 2002 contains no new matter.

Claim Rejections - 35 USC § 112

2. The outstanding rejections under 35 U.S.C. 112, 2nd paragraph have been overcome by amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6, 7, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki et al (US 4,578,296). Miyazaki teaches a thermoformed article comprising (a) a polyolefin resin composition comprising 30-80wt% polyolefin resin, 19-69wt% talc and 1-10wt% titanium dioxide, and (b) a layer of polyolefin resin containing 0-10wt% filler (abstract). The polyolefin of layer (a) is selected from the group consisting of polyethylene, polypropylene, polybutylene, and copolymers thereof (col. 3, lines 20+). Similar polyolefins may be utilized in the unfilled layer (b) (col 7, lines 1+). The thickness ratio of the filled layer (a) to unfilled layer (b) is preferably in the range of 97:3-70:30 (col 8, lines 5+). The laminate may further comprise a saponified ethylene/vinyl acetate layer sandwich between said layers (a) and (b) (col 8, lines 20+). NOTE: saponified ethylene/vinyl acetate is synonymous with ethylene vinyl alcohol and is relied

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upon by the examiner to read on the claimed barrier layer. The laminate has a thickness of 300-800 microns (col 8, lines 17+).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6, 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) in view of Miyazaki et al (US 4,578,296). Farrell teaches a plastic laminate sheet that comprises an outer layer of filled-plastic, an inner layer of HDPE, and an ethylene vinyl alcohol (EVOH)(col 4, lines 43-44) barrier layer interposed between the inner and outer layers (abstract). The EVOH barrier layer adheres to the inner and outer layers by an adhesive selected from the group consisting of copolymers of olefins and acid, and copolymers of ethylene and vinyl ester (col 4, lines 46-55). The outer layer has a thickness of 3-7mils (col 4, lines 60-66) and consists of propylene homopolymers or polypropylene/HDPE blends (col 3, lines 30-40). Farrell blends 5 to about 80 percent by weight filler into the outer layer (col 3, lines 55-61). The filler may be selected from the group consisting of calcium carbonate, talc, and mica (col 3, lines 35-40). The laminate may be thermoformed (see Pat. No. 32,60,777; incorporated by reference).

Farrell teaches that the thickness of each layer is not critical but does not teach the claimed filled layer:unfilled layers thickness ratio. However, Miyazaki teaches a thermoformed laminate comprising a filled polyolefin resin composing and an unfilled layer(s) (abstract and col 7, lines 33+). Miyazaki teaches that the thickness ratio of the filled layer to unfilled layer is preferably 98:2 to 70:30 in order to assure that the laminate maintains the appearance of paper (col 8, lines 5+). Furthermore, the ratio is required to obtain a laminate with the touch and feel of paper (col 6, lines 20+). Thus, it would have been obvious to one of ordinary skill in the art to vary the thickness ratio of the filled layer to the unfilled layers in order to obtain the appearance and touch/feel characteristics of paper.

5. Claims 1-4, 6, 7, and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (US 5,011,735) in view of Miyazaki et al (US 4,578,296). Schirmer teaches a thermoforming laminate comprising a surface film, a barrier film, and a sealant film (abstract). The surface film preferably comprises a polypropylene or ethylene-propylene copolymer (col 3, lines 40-45). The barrier film comprises an ethylene vinyl alcohol or a polyvinylidene chloride (47-63). The sealant layer comprises a polyolefin such as ethylene vinyl acetate (EVA) (col 3, lines 65-67). Adhesive layers may be utilized between each adjacent layer in order to provide sufficient bonding between the layers (col 4, lines 46-60), although adhesives are not required. Furthermore, the adhesives may be the same or different from one another. Each film may be crosslinked prior to thermoforming, preferably by irradiation by the use of high energy electrons, ultra violet radiation, X-rays, gamma rays, beta particles, etc (col 5, lines 24-60). Crosslinking is desirable because it broadens the temperature range at

which the laminate may be thermoformed. The laminate may be thermoformed on an FFS machine and sealed with a lidding film (see Background of the Invention).

Schirmer also does not teach that the polypropylene sheet may contain 40-75 wt% of an inorganic filler. However, Miyazaki teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). The filler should comprise 19-69% of the layer and be selected from the group consisting of talc and titanium dioxide (col 4, lines 18+). The amount of filler regulates the sheet's stiffness, appearance, and thermoformability (col 4, lines 29+). Thus, it would have been obvious to one of ordinary skill in the art to add 19-69 parts by weight filler to the propylene layer taught in Schirmer in order to improve the laminate's appearance, stiffness, and thermoformability.

Schirmer does not teach the claimed filled layer:unfilled layers thickness ratio. However, Miyazaki teaches a thermoformed laminate comprising a filled polyolefin resin composing and an unfilled layer(s) (abstract and col 7, lines 33+). Miyazaki teaches that the thickness ratio of the filled layer to unfilled layer is preferably 98:2 to 70:30 in order to assure that the laminate maintains the appearance of paper (col 8, lines 5+). Furthermore, the ratio is required to obtain a laminate with the touch and feel of paper (col 6, lines 20+). Thus, it would have been obvious to one of ordinary skill in the art to vary the thickness ratio of the filled layer to the unfilled layers in order to obtain the appearance and touch/feel characteristics of paper.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (US 5,011,735) in view of Miyazaki et al (US 4,578,296), claims 1-4, 6, 7, and 9-15 above, and further in view of Bochow et al. (US 5,449,552). Schirmer in view of Miyazaki is relied upon as above. However, neither Schirmer nor Miyazaki teaches that the sealing layer may comprise LDPE, or a blend of polybutene and LDPE. However,

Bochow teaches a multilayer composite film comprising a filled polypropylene film, an adhesive layer, a gas barrier layer, a second adhesive layer, and a heat sealing layer (abstract). The heat seal layer comprises LDPE, polybutylene, ethylene vinyl acetate, ethylene acrylic acid copolymers, and blends thereof (col 2, lines 16-28). It would have been obvious to one of ordinary skill in the art to utilize LDPE, or a blend of polybutene and LDPE, as the sealing layer since Bochow teaches that both compositions are known in the art as good sealing layers in barrier films. The courts have held that the selection of a known material based on its suitability for its intended use supports a prima facie case of obviousness. *Sinclair & Carroll Co. V. Interchemcial Corp.* 325 U.S. 327, 65 USPQ 297 (1945). Furthermore, LDPE and blends thereof with polybutene fall under the broad teaching of Schirmer that the sealing layer should be a polyolefin.

7. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schirmer (US 5,011,735) in view of Miyazaki et al (US 4,578,296), as applied to claims 1-4, 6, 7, and 9-15 above, and further in view of Applicant's Admissions.

Schirmer in view of Miyazaki is relied upon as above. Neither Schirmer nor Miyazaki teaches that the lidding film may comprise the multilayered films claimed in claims 16 and 17. However, Applicant admits in the specification that both claimed lidding films are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to utilize either claimed lidding film because Applicant admits that both films are commonly used in the art as lidding films.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) or Schirmer (US 5,011,735) in view of Miyazaki et al (US 4,578,296), as applied above, and further in view of Rosen (Pat. No. 5,635,011). Farrell or Schirmer in view of Miyazaki is relied upon as above. None references teach that the matrix polymer may be adhered without an adhesive to a layer comprising a blend of

the matrix polymer with EVOH or PA. However, Rosen teaches that it is known in the art to blend a matrix resin with a barrier layer in order to eliminate an adhesive layer between two layers of a laminate (col 2, line 54-col 3, line 3). Therefore, it would have been obvious to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell or Schirmer in view of Hattori, because it is well known in the art that barrier layers comprising such blends adhere directly to layers of the matrix polymer, thus eliminating the need of an adhesive layer.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell et al. (US 4,526,823) or Schirmer (US 5,011,735) in view of Miyazaki et al (US 4,578,296) as applied above, and further in view of Blemburg et al. (US 5,108,844). Farrell and Schirmer in view of Miyazaki is relied upon as above, but none of the references teach that the matrix polymer may be adhered without an adhesive to a layer comprising a blend of the matrix polymer with EVOH or PA. However, Blemburg teaches that two layers may be adhered together by blending some of each composition into the adjacent layer (col 2, lines 25-31). Thus, it would have been obvious to one of ordinary skill in the art to utilize a blend of matrix polymer with EVOH or PA as the barrier layer of the laminates taught in Farrell or Schirmer in view of Hattori, because Blemburg teaches that two layers can be adhered together without the use of a tie/adhesive layer by blending some of each composition into the adjacent layer.

10. Claims 1, 2, 4, 6-11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bochow et al. (US 5,449,552) in view of Hattori et al (US 4,567,089). Bochow teaches a multilayer, thermoformable, composite film consisting of the following layers: a surface layer, an adhesive layer which is optional, a gas barrier layer, second adhesive layer which is also optional, and a heat sealable layer (abstract). The surface layer comprises a polypropylene matrix resin and filler (col 1, lines 60+). The barrier

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layer comprises polyamide, polyvinyl alcohol, ethylene vinyl alcohol, or polyesters (col 2, lines 3-12). The heat sealing layer comprises a polyolefin or amorphous polyester (col 2, lines 14 and 15) such as LLDPE, polybutylene, EVA, ethylene-carboxylic acid copolymers, and mixtures thereof. The adhesives may be identical or unique (see the examples). The individual layers have the following thicknesses: surface layer (25-75 microns), barrier layer (10-30 microns), and heat sealable layer (15-150 microns). The examiner notes that these ranges overlap Applicant's claimed ranges (ratios).

Therefore, Bochow renders obvious the claimed ratios.

Bochow teaches use of a polypropylene base film comprising filler, but does not teach how much filler should be added to the film. However, Hattori teaches a thermoformable laminate comprising a filled polypropylene layer (abstract). The filler should comprise 5-60% of the layer and be selected from the group consisting of calcium carbonate, silica, talc, clay, mica, titanium dioxide, barium sulfate, and glass fiber (col 4, lines 12-19). If the amount of filler is less than 5 parts by weight, the heat resistance, stiffness, and dimensional stability of the thermoformed product is insufficient. Thus, the examiner takes the position that it would have been obvious to one of ordinary skill in the art to add 5-50 parts by weight filler to the propylene layer taught in Bochow in order to improve the laminate's heat resistance, stiffness, and dimensional stability.

With respect to claims 13 and 14, Bochow does not teach that the laminate may be formed on an FFS machine. However, the courts hold that processing limitations do not patentably distinguish a claimed product from a similar product in the prior art unless applicant shows that the processing limitations inherently result in a materially different product. Applicant has failed to meet such a burden. Therefore, the examiner takes the

position that the laminate taught by Bochow is identical to the claimed laminate formed on an FFS machine.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection. However, in order to expedite prosecution of the current application, the examiner would like to take this opportunity to address some of the arguments that may be relevant to the new rejections.

Applicant argues that second Bernig Declaration overcome the prima facie case of obvious alleged by the Office. Specifically, Applicant argues that the declaration establishes the criticality of the claimed thickness ratio with regards to the laminate's thermoformability and paper-like appearance and texture. However, the examiner does not consider these properties to be unexpected. Specifically, Miyazaki teaches that the thickness ratio of the filled layer to unfilled layer in a thermoformable sheet is preferably 98:2 to 70:30 in order to assure that the laminate maintains the appearance of paper (col 8, lines 5+). Miyazaki further teaches that the ratio is required to obtain a laminate with the touch and feel of paper (col 6, lines 20+). Thus, the examiner maintains the position that one of ordinary skill in the art would have suspected that the laminate's appearance and texture would have been altered by varying the relative thickness of the filled sheet to the unfilled sheet.

With regards the thermoformability, Miyazaki and Hattori each teaches that the amount of filler incorporated into the laminate is going to affect the laminate's heat resistance. Thus, one of ordinary skill in the art would expect a sheet comprising either a larger weight percent of filler or a laminate comprising a thicker filled layer would

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require a higher processing temperature. Thus, the examiner concludes that the results are not unexpected.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The family of Shah patents (Pat. Nos. 5,543,223; 5,004,647; and 4,755,419) teaches multilayered laminates comprising the claimed arrangement of layers. Mueller et al. (Pat. No. 4,788,105) teaches a packaging laminate with the claimed arrangement of layers. Vurlet (Pat. No. 5,237,797) teaches a method of vacuum packaging. Furthermore, Vurlet teaches that packaging fills normally comprise the claimed arrangement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 703-305-0025. The examiner can normally be reached on Monday-Friday from 7:00a.m. to 4:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is 703-305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Kevin R. Kruer, Patent Examiner



Paul Thibodeau
Supervisory Patent Examiner
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